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A Healing Solution to a Saturated Market:

An internationalisation framework for ABC

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Disclaimer

With this disclaimer, I, Maria Pires, declare that I am fully responsible for the work here presented and the referred sources alone were used to develop this report.

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Abstract

This thesis attempts to support the healthcare information systems producer, ABC, in its aim to expand beyond the borders of its saturated home market. With the success of such an internationalisation plan, ABC could overcome the challenge of its national growth cap and reach out to international development opportunities.

In the recent past, however, the company has based international operations on opportunistic decision making rather than a solid internationalisation framework. Considering the complexity of internationalisation, this work aims to (i) develop a systematic and quantified scoring method to evaluate the potential and attractiveness of new markets, (ii) apply this method to ABC's preselected countries and (iii) evaluate the elected best solution.

Applying the scoring model identified the Netherlands as the high potential target country. However, the final in-depth evaluation has to conclude a necessity for further preparation of ABC before expansion.

Keywords: ABC, GlobalCare, healthcare, information and communication technology, information systems, internationalisation, Europe, Middle East, Latin America, Netherlands.

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1. Introduction

The adoption of information systems (IS) in healthcare – eHealth - has followed similar patterns as information technologies (IT) have in comparable industries (McKinsey 2014). At an initial phase, IT was mainly adopted to help execute processes that were standardized, such as salary processing. As technology advanced, IS became a main tool to integrate different processes and to support the supply chain. We are now at what can be considered the third phase of IT – this phase is characterised by the possibility of a *full digitalization of the enterprise* (McKinsey 2014). Most of the data can be connected in a single IS which provides the possibility of coordinating the care given with other institutions, to schedule analysis and other medical exams or, in an administrative perspective, to support processes as payroll, payment processes, stock control, amongst others. For me, what is the most interesting about this current phase is undoubtedly the advanced analytics it provides. Highly advanced analytics and key indicators potentially support earlier diagnoses or other kinds of decision making. Information and communication technology (ICT) in healthcare enables the reduction of medical errors and lessens hospitalisation length. This, in turn, results in considerable savings, both for the patient and the enterprise. These are just small examples of the potential of ICT in healthcare, as the advantages of integrating a high-quality IS in a medical institution are countless and can severely improve the health system. The European Commission considered eHealth as one the six most promising markets in 2007. However, Europe has failed to meet the expectations of the benefits of such systems. The first eHealth Action Plan was implemented in 2004 and despite setting targets to assure a wide usage of IS in Europe, the process has failed to fulfil its high-targeted expectations, as the Chairman of the EU Task Force on eHealth and Estonian President, Hendrik Ilves, stated: "We know that in healthcare we lag at least 10 years behind virtually every other area in the implementation of IT solutions" (May 2012). Despite acknowledging the importance of IS in healthcare for citizens, public authorities, patients, healthcare professionals and health organisations there are still many barriers to overcome in order to achieve the desired outcome. ICT healthcare companies must track changes in regulations and actively show the benefits of their products.

ABC is a big player in the Portuguese market when it comes to business support software for the healthcare system, as it is present in over 70% of the Portuguese hospitals. It is one of the company's main strategic goals to expand its operations to international markets. However, the company has not developed a solid framework to assess market potential abroad. Rather, the organization relies on a more reactive attitude, looking for new opportunities through network or directly approaching potential clients in business fairs. Having this into consideration, this work aims to (i) develop a consistent framework to support future analysis and (ii) evaluate the most attractive market for the organisation, from a given set of countries previously defined by the company. In order to answer these two problems research regarding internationalisation was conducted, as well as the internal and external analysis of the company. A scoring model was developed to serve as a support structure for the assessment of market attractiveness and finally, a close analysis of the target market was undertaken for ABC's chances of success.

2. Literature review

Internationalisation can be described as an over-time process in which companies increasingly develop operations outside their home country (Welch and Loustarinen 1988). One may divide research on the process of developing international business in four different main approaches: **economic**, **stationary**, **network** and, more recently, the ***born globals***.

The economic approach dates back to the decade of the 60s, as theories such as the product life cycle (Vernon, 1966) and the Eclectic theory (Dunning, 1979) emerged. The product life cycle theory states that products go through four different phases from their development until their decline. In the initial phase or the so-called *introduction* phase, products are developed to satisfy the needs of a specific region and are exported to countries with cultural similarities. As sales increase and profits become larger – *growth* phase - the market turns more attractive for new entrants, leading to more competition. In the *maturity* phase, sales continue to increase and competition becomes more intense as prices fall. It is in this phase that companies will try to innovate, add new features or upgrade the product. The

initial version of the product becomes obsolete and the product reaches its *decline* phase, following a decrease in demand. This theory is still widely used for marketing and economic purposes.

The Eclectic theory (Dunning, 1979) builds upon the concept of comparative advantage, defined by David Ricardo in 1817. Dunning argues that a firm pursues an internationalisation strategy following the existence of a comparative advantage, which the author defines as *ownership advantage*. The entrance depends on *internalizing* and *location advantages*. The former are directly related to transaction costs and the resulting need of externalizing production when such are high. If that is the case, it is most likely that a company will enter the market through licensing. In the scenario in which it is advantageous to have its own production, the company may choose between export and foreign direct investment. This decision, Dunning argues, should be dependent on the geographical factors of the foreign country (location advantage). In the case of considerable advantages for the firm to invest e.g. low labour costs or tax benefits, the firm will directly invest in the country, otherwise it is more reasonable to lead exportation activities.

The stationary approach sees internationalisation as a process where companies incrementally increase their international involvement. This approach is mainly influenced by the work of Johanson and Vahlne (1977) and their **Uppsala Model.** The model describes internationalisation as a sequential process in which a firm with no external operations initiates its foreign activity via an agent to then gradually increase its commitment with the new market, through a sales subsidiary and, finally, a production facility. The authors consider experience as a main driver for international success since it helps to develop market knowledge and thus turn managers more eager into perceiving opportunities and enables them to anticipate problems. Moreover, the authors argue this process should be supported by market commitment. Such is obtained by the amount of resources allocated to foreign activities and their uniqueness for the firm's international operations. Hence, the combination and integration of incremental commitment and experience allow the company to overcome uncertainty and lack of knowledge on the foreign market. The model is later on revisited to recognize the importance of relationships in business (Johanson and Vahlne, 1990), a transition to the network approach. Network theories claim that internationalisation occurs due to external relations (Malhotra

et al., 2003). These relations include suppliers, customers, partners or even family and friends (Coviello and McCauley, 1999) and are used to overcome geographical distance and lack of knowledge about the foreign market. Some researchers completely isolate network to explain internationalisation, as Holmlund and Kock (1998), while others rely on a hybrid model combining the stationary and the network approaches, such as Johanson and Vahlne (1990) and Coviello and Munro (1997), who found that for software companies this process in commonly used.

The *born globals* approach argues the gap between the inception of a company and the start of its operations abroad is not necessarily wide and the two can be simultaneous (Madsen and Servais, 1997). In this approach, inexperience and lack of resources are no longer seen as major drawbacks to internationalisation (Knight and Cavusgil, 2004). Knight and Cavusgil state that globalisation and improvements in ICT are the key drivers for *an early adoption of internationalisation*. For the authors, highly innovative young firms that are internationally-orientated are much more likely to succeed than young firms which lack an innovative culture. For the *born globals*, not having the desired resources that foster internalisation (capital, human and equipment) is leveraged with an innovative way of approaching business.

Considering ABC is a mature company which already does international business, the latter approach is not a good fit for the company. Through analysing the internationalisation strategy of the company, one may argue it rather fits into the stationary-network hybrid model approach. ABC typically starts by establishing relationships with strategic clients to evaluate the market reception of its products. The choice of these clients does not follow a strategic reasoning thus far. Instead of having a solid grasp of the different possibilities and deciding where to internationalise, the company typically reacts to opportunities and only afterwards assesses, whether the country has growth potential. To avoid one-hit-wonders, deeper market analysis should be conducted to lead to sophisticated country selection. In the next step, the selected geographical aspects of the target location influence the entry mode of the firm. In fact, the two choices must be part of the same decision (Koch, 2003). The country selection process should be rational and supported by consistent frameworks. Gruning and Morschett (2012) suggest that from a list of potential markets, the company should eliminate the less attractive ones to

then only evaluate the high potentials. A similar approach is also supported by Cavusgil (1985), Johansson (1997), Kumar (1994), Root (1994) and Koch (2003). The authors identify between three to four stages, starting with a (preliminary) screening during which managers eliminate countries that are considered less attractive. The second stage focuses on analysing the market, acknowledging macroeconomic-level indicators and industry-level indicators (Cavusgil, 2004). Here managers should understand the external environment of the countries, barriers of entry, market size and growth prospects, as well as level and type of competition. Once the importance of the indicators is weighted according to experience and firm specific criteria, countries are ranked accordingly. The country ranked first presumably represents the best decision to internationalise.

3. Methodology

The execution of this report was essentially divided into four different phases, which required distinct research methods. First, for the literature review, secondary research was conducted using online databases of articles and journals. To what concerns the company analysis, a mix of primary and secondary research was performed. Regarding the former, semi-structured interviews were conducted with the Auditing Manager, Healthcare Commercial Senior Manager and Strategic Planning and Innovation Director. These interviews were crucial to understand (i) the organisation structure, (ii) past, present and future goals, (iii) product characteristics, (iv) current market positioning and (v) internationalisation history and objectives. The secondary research focused on quantitative data, which was directly extracted from the company's information systems, annual reports and other documentation. Most of this research was possible as I am currently working as an intern for the company. This type of research was again used for the market analysis. Online sources such as The Economist Intelligence Units, market analysis from consultancy companies as Deloitte, Gartner and Accenture as well as the annual reports of the main players of the industry provided helpful information on market characteristics, trends and behaviour. For the scoring model, which requires data collection concerning macro and micro variables, it was essential to have coherent data across the model. For this purpose, databases as the World Bank, OECD, UN and WHO were accessed.

4. Internal Analysis

i. Company Overview

ABC is a Portuguese company that offers technological services. It was founded in 2008 by the merge of an IT company and a company whose business relied on selling software solutions for pharmacies. Currently, its main shareholder owns 73% of the company. ABC is quoted in the Euronext Lisbon and currently has 741 employees.

ABC operates in the technology sector by providing consultancy services related with IS, operational support and maintenance services, and selling both hardware and software products. Services, which comprise consultancy and software implementation, represent the major revenue stream of the company (54%), followed by support and maintenance (28%) and finally products (18%).

The company has over 4.500 clients, divided into different markets: healthcare, pharmaceutical, telecommunications and media, financial services and public sector (**appendix 1**). To face this diversity, the firm is currently organized in four main business divisions: Farma (with 31.87% of total revenue), IT Consulting (20.12%), Healthcare Solutions (18.48%) and Managed Services (13.04%). The remainder of the organization's revenue comes from the company's subsidiaries in Spain (15.48%), which are totally focused on the pharmaceutical sector and two smaller business divisions, Energia (0.01%) and Mar (1%).

This report will focus on Healthcare Solutions' main product – GlobalCare. GlobalCare is a software for hospitals, clinics and other medical institutions. It is an in-house developed information system, which represents roughly 18% of the company's sales volume. The product is a global solution, providing support for the administrative processes and for healthcare operations. A more detailed description of the product can be found in **appendix 2**. The business model (**appendix 3**) relies on licensing the software, complemented with implementation services, support and maintenance. The implementation services are the main revenue stream, as they include the customization and an assigned team to provide support and training of future users. The licensing, which can be unlimited

or per user, follows in terms of revenue stream. Support and maintenance services typically are ongoing projects, so the company needs available resources to face the clients' needs.

In Portugal, the product has a current market penetration of 50% in the public sector and 47% in the private sector. Considering the national market is rather mature (**appendix 4**) and ABC already detains a strong position in it, the company decided to extend its operations abroad to search for growth opportunities. Currently the product is present in Angola and Brazil, while the company is still searching for other business opportunities abroad. In the national market, the main client is Jorge de Mello Saúde (20% of revenue), a private organisation. IPO, Centro Hospitalar e Universitário de Coimbra, Lusíadas and Escala Braga – Sociedade are examples of other big clients, which on average amount for 4% to 5% of total HES revenue.

ii. Financial Analysis

Since 2011, Portugal has gone through a difficult financial period that severely affected most of the Portuguese companies, ABC being no exception as the results decreased in that year (94.464 thousand € versus an average of 119.775 thousand € in revenue between 2008 and 2010). Despite the unfavourable macroeconomic environment, the company has found its way to present positive results, partially compensating the decrease of national revenues (10.3%)[1] with the increase of international activity (7.6%)[2]. The figures below present the company's results for the past 4 years and the evolution of its international operations.

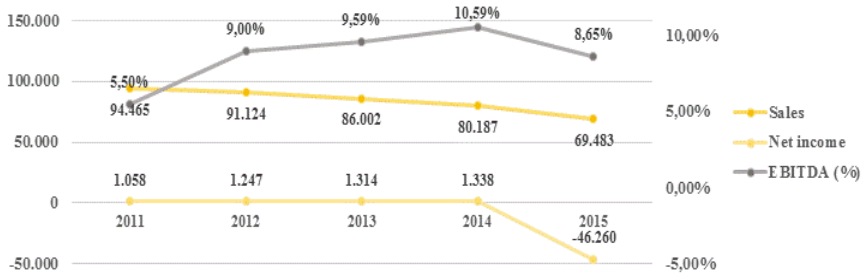

Figure 1: Results evolution over 2011-2015.

[1] Average decrease, 2011-2015.
[2] Average increase, 2011-2015.

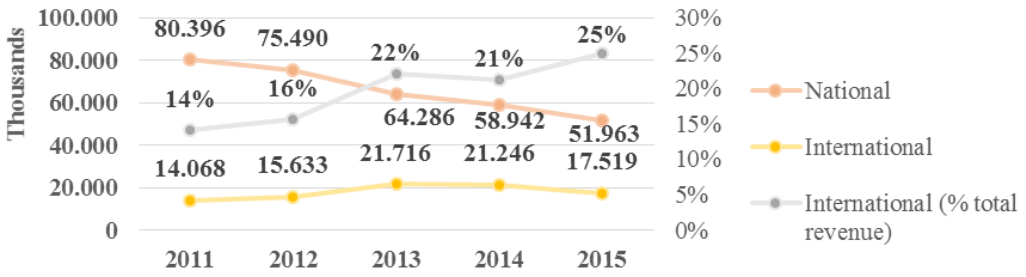

Figure 2: National and international revenue over 2011-2015.

Despite suffering a decrease in the sales volume, the company has managed to improve its operational profit due to cost reduction effort. In 2015, the decrease of 13.35% in total sales is explained by the loss of revenue stream due to the sale of subsidiaries, as these were considered not core activities for the company. Together they accounted for roughly 30% of total revenue, in 2014. However, neglecting these subsidiaries and comparing the company's performance in the last two years, leads to the conclusion that the company improved its activity from 2014 to 2015: sales volume rose by roughly 13 M € and EBITDA increased by 17.6%. Despite a better operational performance, ABC's net income in 2015 reflected a loss in terms of goodwill (nearly 37 M €) and extra costs with contracts terminations. These two factors were the main reason behind the negative results in 2015. In terms of liquidity (**appendix 5**) the organisation's debt-to-equity increased considerably in the last year, reaching 127%. The company's current ratio has been falling in recent years, as ABC is increasingly less capable of meeting its short term liabilities

iii. International Activity

Since its birth, ABC has always performed operations abroad. Regarding its international activity, Spain and Angola are the countries with higher relevance. Through the years, activity in Spain represents an average of 61% of the international revenue. At the same time, the weight of the operations in Angola decreased from 34.56% in 2011 to only 9% in 2015, being partially compensated by Brazil (2.63%)[3] and the remaining Europe (24%)[4].

[3] 2015 data.
[4] 2015 data.

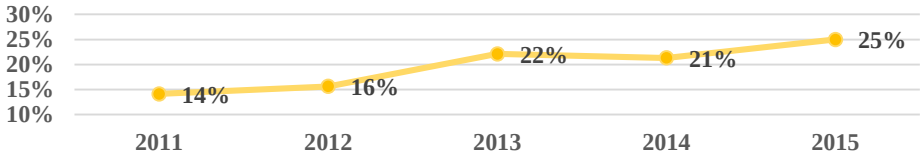

Figure 3: % international revenue in ABC's total revenue.

2014 was the breakthrough year for GC's international commercialisation. ABC started internationalisation to Poland, through a local distributor. The operations in the country were later (2015) ceased following an unsuccessful performance mainly due to a poor relationship with the local partner. Currently, the organization has three major on-going projects – two in Brazil and one in Angola.

Lessons learned

The failure of the operations in Poland and the projects in Brazil and Angola provided major insights for future business. The biggest lesson relates with cultural proximity. Both in Poland and Angola, different approaches of doing business and a malicious partner caused the projects to fall behind expectations. When the partner, who does not share the same business culture, (lack of status reporting and a clear MoU, for example), operations are more time-consuming which increase costs and decrease client satisfaction. The Brazilian experience started off similarly, as the first project suffered from the same vicious. The new project, with UNIMED, has been successful as the partner's way of doing business relates with ABC's. This highlights the importance of the choice of the business partner and all the structure behind the operational activities (scheduling and planning, legal terms and each parts' rights and obligations,).

5. External Analysis

i. Market overview

Size and growth

ABC HES operates in the ICT healthcare market. Information regarding the market is difficult to find as this is a niche market with only recent relevance. A study from Gartner (2015) separates it into two vertical markets: the physician (ambulatory) and the hospital. Both vertical markets are then further

divided into six segments, as the table below depicts. ABC is present in both verticals and covers the highlighted segments presented on the table below:

ICT Healthcare Market					
Physician			**Hospital**		
Internal Services	Software	IT Services	Internal Services	Software	IT Services
Telecom Services	Devices	Data Centres	Telecom Services	Devices	Data Centres

Table 1: ICT healthcare market.

According to Gartner, the market where ABC operates[5] was valued at $ 75.486 M in 2015 and it is expected to reach $ 90.257 M in 2019 (**appendix 6**), given an estimated CAGR of 4.73%. The main consumers in 2015 of ICT in healthcare are unquestionably North America (52%) and Western Europe (26%). In the latter, United Kingdom (30%), Germany (18%) and France (12%) represent the larger markets. The third largest region is Japan, accounting for 4% of the market. This low share shows how the rest of the market is spread throughout the world. It is estimated that Latin America will substitute Japan as the third largest market in 2019. The regions of the Emerging Asia/Pacific, Greater China and Middle East present the highest growth rates (**appendix 7**).

A more rigorous analysis would breakdown the market in the different modules typically offered. Each module relates to a given functionality or healthcare area. Since GC is a global solution and its main advantage relies on this characteristic, for simplification purposes the market will be analysed as a whole, rather than fragmented.

Market trends

A growing and ageing world population facing a considerable increase in life expectancy gives reasons to question the sustainability of healthcare systems. Three quarters of healthcare spending are allocated to chronic diseases treatment, which are projected to increase, both in developed and developing countries[i]. Confronted with these demographic changes, the percentage of GDP allocated to health has been increasing through the years (**appendix 8**) and public spending in health is expected to keep rising globally (**appendix 9**)[ii]. Governments demand higher budget control and look for solutions that enable higher efficiency and cost reduction. The HITECH in the US predicted over $27

[5] Corresponds to the highlighted segments from both vertical markets: internal services, IT services and software.

billion to be allocated to the digitalisation of the healthcare system[iii] . Similarly, the European eHealth Action Plan in 2004 promotes the adoption of ICT in healthcare. These are examples of how government initiatives play a large role in the adoption of ICT and boost the ICT healthcare market.

ii. Competitive landscape

As most IT industries, the healthcare ICT is characterized by rapid technological change, a large number of players and a dominance of large American companies (Deloitte 2015). The big players of the market provide a complete IS, covering the different areas of the hospital. There are others, typically smaller players, who focus on particular solutions (Laboratory IS or Radiology IS, for example). For simplification purposes I will focus on direct competition – meaning, the part of the market that offers a similar solution to ABC's (**appendix 10**). In this market, Cerner is the market leader, followed by McKesson and Epic (Deloitte 2015). In Europe, typically each country is dominated by one or two firms, due to rigid regulations that lead to difficult replication in other European countries. In the US, the market is highly concentrated as the top 10 players (**appendix 11**) account for approximately 90% of the market. Even though these companies mainly operate in the USA, they start to look for opportunities abroad. Cerner acquired Siemens Health Services in February 2015, following its desire to increase its presence in Europe. In fact, a report delivered by KLAS Global Performance claims that Cerner and Intersystems are the most successful companies operating in multiple regions, particularly Europe and the Middle East. Meditech, for example, mostly focuses its international efforts on the African continent, doing business in Botswana, Ghana, Kenya, Lesotho, Mozambique, Namibia, Nigeria, South Africa, Swaziland, Uganda, Zambia and Zimbabwe. Overall, companies are looking for opportunities beyond USA and Europe, due to the saturation and stagnation in these markets. Big companies have a strong advantage compared to smaller players, mainly considering human and financial resources.

iii. Industry analysis

A Porter Five Forces analysis was conducted to assess the healthcare ICT industry attractiveness (**appendix 12**). The figure on the following page presents the summarized results.

Competitive rivalry	• Brand awareness and recognition are highly important. • Market characterized by big players with a large amount of small companies. • Highly subject to technological change. • Big players are likely to integrate smaller profitable companies.	High *increasing*
Buyer Power	• Lack of awareness of the benefits of IS in health. • Steep learning curve when using the system. Lengthily adoption. • High costs of implementing and maintaining a healthcare IS. • Evolving industry requirements and standards. • High switching costs.	Medium *increasing*
Supplier power	• Specific know-how of working with a particular supplier. • A large number of solutions are built having an external software as a basis. • Large number of suppliers.	Medium *stable*
Threat of substitution	• Information systems require a large amount of initial investment. • Updates and customizations to the healthcare organization are commonly required. • Users' steep learning curve.	Low *increasing*
Threat of Entry	• Fast growth industry. • Large investments in I&D. • Legal and regulatory barriers. • Opportunity of specialisation in niche markets.	High *increasing*
Complements	• Hardware. • Individual modules are complemented with other solutions. • IT consultancy is usually necessary when implementing a new solution.	

Figure 4: Porter 5 Forces plus complements.

In conclusion, the attractiveness of the industry is medium since competition is rather fierce and a large amount of resources should be spent on product development, support and maintenance.

iv. Key success factors

Regarding the industry, five main key success factors for internationalisation were identified: (i) the level of ICT development in the healthcare system, which should be small, providing margin for significant improvement; (ii) perceived benefits of ICT in healthcare, which can be shown by the existence of an IT health action plan or by increasing efforts from the government to digitalise the system; (iii) scalability opportunities, meaning the market should have a considerable dimension and number of clients. When internationalising, the product must be customized to meet the hospital needs and the target country's regulations and specifications - the costs of the first project are substantial and typically the company will have a negative or low margin. Thus, the market should be large enough to benefit from economies of scale. Additionally, (iv) the legal structure is also a key success factor,

to provide a clear framework and understanding between parts; and (v) an available network of partners, which allows ABC to work with a local distributor, reducing the costs of its operation.

A SWOT and TOWS analysis were conducted to evaluate the company's position towards the market. The SWOT summarized results are presented below.

	Positive	Negative
Internal	**Strengths (S)** (1) Over 20 years of experience in healthcare. (2) Low labour cost. (3) Relative international experience. (4) Offers a global integrated solution.	**Weaknesses (W)** (1) Limited financial resources. (2) Limited human resources. (3) Low international visibility. (4) Language and legal barriers.
External	**Opportunities (O)** (1) Unsustainable healthcare system (globally). (2) Ageing population will increase medical expenditure. (3) Market positive expected growth. (4) Perceived solution for growth of inclusive healthcare in emerging economies.[iv]	**Threats (T)** (1) Emerging economies health system readiness. (2) European saturated market. (3) Big players of the industry also focused on internationalization. (4) Lack of legal clarity concerning ICT in healthcare.

Table 2: ABC's SWOT analysis.

A TOWS analysis aims to help managers understand how they can take most advantage of opportunities and minimize external threats by leveraging the company's strengths and overcoming its weaknesses. ABC should use its low labour cost as an advantage to compete with big players (S2-T3) that are also interested in internationalisation. The company should also try to find local partners that are interested in selling these products due to the market potential, in order to reduce the costs of doing business and overcoming its resources' scarcity (W1, W2 – O3). Its international experience could help the company to define a framework that protects them *a priori* from lack of status reporting and other operational barriers that the managers have found in the past (S3-T1).

v. Analysis of competitive advantage

The organisational resources platform (**appendices 13 and 14**) allows companies to look to the inside of their organization and understand what makes their business unique. For ABC, three main key strengths were found: (i) experience, (ii) new product development and (iii) labour costs. Having over 20 years of experience in the healthcare ICT market (i) and selling GC in different geographies provides experience and shows ABC is able to adapt the product to the specifications of different health systems. Despite being a valuable, non-transferrable competence, it is not scare, as there are

other players with vast experience in the industry, thus not providing a competitive advantage. ABC's ability (ii) to meet clients' requests and develop upgrades is a valuable competence for the organisation, although not durable and not replicable. Moreover, its limited resources prevent ABC from competing one-on-one with the big players of the industry, as there are more advanced and sophisticated systems in the market. Finally, labour cost are low, as Portugal ranks 8th and 7th on OECD rankings for lowest minimum-wage and lowest average annual wage, respectively (**appendices 15 and 16**). This is a source for competitive advantage for ABC, considering the industry main players come from countries with substantially higher labour costs. Overall, ABC does not possess a source of sustainable competitive advantage to outperform competition. The company should rather look for specific regions, where the organisation's main strengths standout and are not overpowered by rivals – search for regions where it owns a **local competitive advantage**.

vi. Internationalisation readiness

To evaluate internationalisation readiness, an online self-assessment tool was used - CORE^{TM}. The assessment consists in answering 70 questions (**appendix 17**), divided into 6 different categories: competitive capabilities in domestic market, motivation for going international, commitment of top management, product readiness for foreign markets, skills, knowledge and resources, and experience and training. The outcome indicated the company is moderately ready to perform international business (**appendix 18** presents the detailed results.) The categories where it obtained worse results were (i) the motivation, since there is not an established long-run objective and usually unsuccessful companies are more reactive than proactive, which is the present case, (ii) skill, knowledge and resources as the organisation lacks important market information and finally (iii) experience and training mainly related with the number of business performed abroad.

6. Country selection – The scoring model

Following ABC's growth objectives, expanding internationally is the most obvious solution due to a saturated Portuguese ICT health sector. However, as the previous analysis concluded, competition in this market is fierce and ABC is not one of the top players, neither possesses the resources to invest

highly on internationalisation. Thus, the choice of a new market must be a result of a highly careful analysis and well-designed framework.

A scoring model was used to rank a specific set of countries according to their attractiveness. The country yielding the most attractive market will be the final choice. The scoring model begins with a set of countries to where the company wishes to evaluate its chances of doing business. Such countries will be initially subject to (i) a preliminary screening to be subsequently (ii) ranked according to meaningful indicators for international success (macro-level and industry-level variables).

i. Initial set of countries

The company currently sells GlobalCare in Brazil and Angola. However, in terms of new markets, the company wishes to assess potential entry in: Cape Verde, Mozambique, Timor, Middle East and BENELUX. The first three countries are justified by language similarities, which is a great advantage in business. The region of Middle East is a growing market and therefore very attractive for industries in general. Regarding Belgium, the Netherlands and Luxembourg, the company already performs business in these areas (although in a different sector) and believes it might leverage its network there. The region of Latin America (excluding Brazil) will also be added, since it is the region forecasted to be the third largest market in 2019 (**appendix 19**) and close to Brazil, where ABC already has an office. Hence, 38 countries compose the initial set, which is detailed in **appendix 20**.

ii. Country screening

Preliminary screening

To reduce the initial set of countries, a preliminary screening was performed using a knock out criteria. Since most of the selected countries belong to regions known for unstable politics and economies[v], two variables were used as eliminatory-criteria to discard countries with high risk of doing business: "index of economic freedom" and "country risk rating", as suggested by Cavusgil *et al.* (2004). For the former, countries that scored lower than 60 (considered mostly unfree or repressed) were excluded. As for the latter, countries with a C rating or below were also neglected. For the remaining, the "existence of an eHealth plan" was the criteria to eliminate countries for which the answer was

'No' (**appendix 21**). All in all, 10 countries were eliminated as the final set comprises 18 countries (**appendix 22**).

Scoring model

In this section, the major steps of the model and their rationale are described: (i) identifying the relevant indicators (**appendix 23**), (ii) standardizing the values and (iii) attributing weight to the indicators.

In what concerns macro-level indicators, seven variables were selected: (i) **Gross Domestic Product** converted to international dollars using purchasing power parity (ppp) rates to reflect the country's current economic position, (ii) forecasted **Gross Domestic Product real growth**, as a predictor for the country's economic development, (iii) **Population**, which serves as a proxy indicator for market size, (iv) **the percentage of population aged 65 or over**, as an ageing population was identified as an incentive for ICT adoption, (v) the **forecasted growth of the percentage of population aged 65 or over**, since larger increases are likely to trigger larger health expenditures, (vi) **health expenditure as a percentage of GDP**, which assesses the relevance of the health sector in the country and (vii) **average growth of public health expenditure as a percentage of GDP** for the past 5 years, since higher growth rates foster a stricter cost control and budget constraints – main drivers for ICT implementation. To what concerns the industry-level indicators, 6 were selected: (vii) **the Health and ICT ranking**, given by the product between the Health development ranking of the country and the ICT development ranking of the country, as a predictor for the ICT health development of the country. Cavusgil *et al.* (2004) suggest level of competition as one of the indicators to include. Nonetheless, the characteristics of the market and the lack of information transparency in most of the selected countries made it impossible to include it in the model. The former variable was created in an attempt to evaluate how the country is mature at this level. Thus, countries with higher rankings are assumed to have more mature markets. However, one may argue that the vice-versa market, with lower rankings, may not be more attractive as they lack structure to support ICT implementation. To face this issue, (viii) **the ICT readiness** variable was added, an index presented in the World Forum

Economic Global Information Technology report, which measures the country's readiness to implement and benefit from ICT, through three variables: affordability, skills and infrastructure, (ix) **the importance given by the government to ICT**, since government incentives should have a considerable impact in the market[vi], (x) the **existence of a national electronic hospital record**, as for countries for which the answer is "yes" the market is mainly reduced to the private healthcare sector. To assess the market size, the variables (xi) **density of beds,** (xii) **density of physicians** and (xiii) **density of nurses and midwives** were chosen, meaning the number of beds/physicians/nurses and midwives per 1.000 inhabitants, due to lack of data on the number of healthcare facilities for this set of countries. The selected data concerned the most recent year available. Correlation amongst variables was analysed and these were standardized on a scale from 1 to 100 (**appendices 24 and 25**). The weight attributed to the variables tried to reflect the company's priorities and previously done research. Typically, macro-level variables have a lower weight than micro-level indicators. For this specific case, the macroeconomic environment, especially the government intervention, is quite relevant, thus the overall weight for macroeconomic indicators is 30%. The ones with higher relevance are the average growth of public spending in healthcare, population and the forecasted growth of the percentage of people aged 65 or older. The first reflects the evolution of the importance the government gives to healthcare. As governments have a key role in the implementation of these systems, for example 93% of the European countries state that public funding is their main funding resource, a higher weight was given to this variable. Since it is highly correlated with the percentage of GDP allocated to the healthcare sector, the attributed weight to this variable was minimum. The second is an indicator for the market size and compensates the fact that micro indicators are expressed in 1.000 inhabitants, thus not reflecting the absolute size of the market. As for the latter, an ageing population is one of the trends fostering a larger adoption of ICT in healthcare. If the weight of old people increases in the total population, healthcare costs are likely to present increasing returns to scale. Forecasted growth of GDP and GDP follow in the relevance of weight to incorporate economic feasibility and old population comes last. In what concerns industry-level indicators, Cavusgil (2004) suggests that market size is the most important variable, given by the sum of number of beds,

physicians, nurses and midwives. The growth of the market is, as well, of the highest importance (Cavusgil, 2004), being second on the weight attribution. For the competition, as the market shares are hard to measure and there is no such information, the existence of a national EHR tries to reflect this. For countries with no data regarding certain variable, the weight of that variable was linearly distributed by the peers (macro vs. industry)

MACRO LEVEL INDICATORS	GDP	0,035	30%
	Forecasted real growth GDP	0,045	
	Population	0,06	
	Population ≥ 65y	0,015	
	Forecasted growth population ≥ 65y	0,055	
	Average spending in health growth	0,02	
	Average growth of public spending in health	0,07	
INDUSTRY LEVEL INDICATORS	ICT health market growth	0,12	70%
	Health and ICT ranking	0,09	
	Readiness	0,07	
	Importance of ICTs to government	0,08	
	Electronic hospital record	0,10	
	Number of beds	0,10	
	Number of physicians	0,07	
	Number of nurses	0,07	

Table 3: Model indicators and weights.

iii. Results

After applying the model to the set of countries, the Netherlands ranked first in the results.

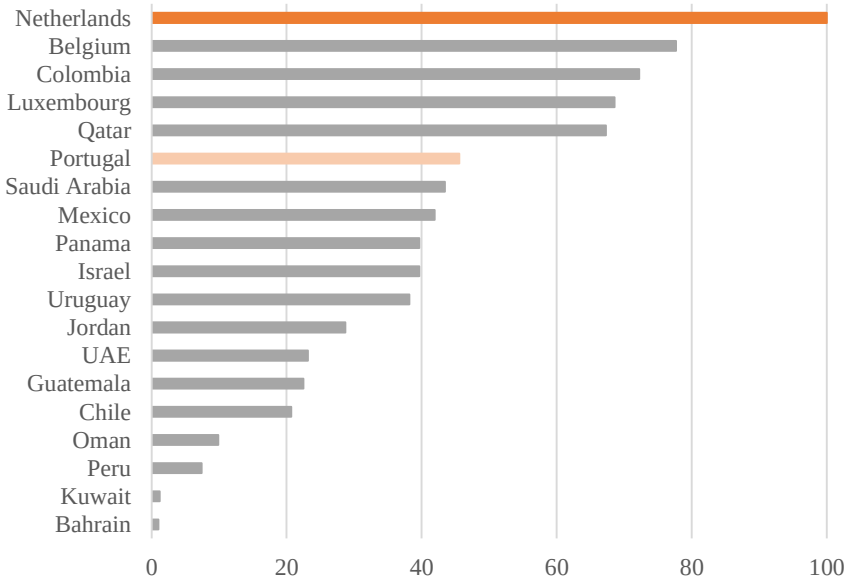

Figure 5: Ranking based on the scoring model, standardized results.

The results of the model show that there is "no clear winner" in the rankings, since the Netherlands (1st) scored 50.49 and Colombia (2nd) 47.27. Additionally, the scores obtained cannot be considered high, meaning no country performed good in all or most all variables. This indicates that market opportunities are rather divided between countries with a good structure to receive the product (i.e. the European countries) and countries with potential but who lack the structure (Colombia, Qatar, Panama). Companies more willing to take risks may prefer to choose the second option, whereas more risk averse organisations might prefer Europe, although this market demands for higher quality.

7. Netherlands

The results of the model should be questioned with an in-depth analysis. The aim of this section is to evaluate the Dutch market, through a macroeconomic analysis, followed by the industry analysis.

i. Macroeconomic analysis

The framework PESTLE will be used, in order to acknowledge for Political, Economic, Social, Technological, Legal and Environmental forces affecting the market (**appendix 26**).

POLITICAL	● Politically stable, governed by a central coalition. ● Ranked AA in the Euler Hermes Index. ● Fiscal consolidation is one the government top priorities, through a decrease in expenditure, namely in healthcare.
ECONOMIC	● Second country in allocation of GDP to healthcare (12.9% in 2013), only behind the USA. ● Among the OECD high-income countries, as its GDP per capita was $ 49.486 ppp, in 2015. ● GDP forecasted real growth rate of 2.7% (2017), slightly above the OECD countries. ● The country's geographic location is a strategic position, as the Netherlands are an important transportation hub.
SOCIAL	● Population amounts to 16.9 million people. ● 18.3% of the population is aged 65 or older. In 2035 it is expected to be 27%. ● Dutch life expectancy is 81.4 years.
TECHNOLO-GICAL	● Ranks 8th in the IDI index. ● One of the country's strategic goals is to rise its R&D expenditure to 2.5% of GDP, by 2020. ● Good structure and incentives to R&D as many research and development companies are based in the Netherlands. ● 93% of population are internet users.
LEGAL	● Corporate tax of 25%, slightly above the OECD average. ● It takes, on average, 4 days to start a business and 2.5 days to register property.
ENVIRON-MENTAL	● Described by OECD as *an early leader in environmental policy*. ● Its renewable energy levels are below target. ● Ranked on the bottom top 5 European countries in the 2016 Environmental Performance Index (EPI) of Yale University, although occupying the 36th position overall.

Figure 6: The Netherlands PESTLE analysis.

ii. Industry analysis

Market size and growth

The ICT healthcare industry in the Netherlands is estimated to have a market size of $ 1.136 Million and expected to grow at a 2.51 % CAGR until 2019. IT services account for half of the market (51%), followed by internal services (35%) and software (14%)[vii].

Competition

In terms of medical facilities, the health care sector is divided in general hospitals (76), specialist hospitals (22), rehabilitation centres (30), university medical centres (8), independent treatment centres (213) and private clinics (106)[viii]. In total, they account for 462 facilities. In the 2015 eHealth Global Observatory survey, the Netherlands reported not having a national electronic hospital record, which opens the doors for private companies to flood the market. Nonetheless, as the country was a pioneer in healthcare information systems, it is estimated that almost all general practitioners use an electronic medical record system. Players such as Epic, Siemens (now through Cerner) and iSoft are examples of competition in the Dutch market. As mentioned before, the substitution of an information system is not something companies take lightly. Thus, the market might be too saturated for ABC to enter. In the company's perspective, the quality of its software does not overpower the former rivals. However, ABC's managers' perception of the market is that the price might work in their advantage, as the Portuguese company offers a more affordable solution than its peers.

Trends

Nonetheless, considering the key success factors mentioned earlier, the company should address a group of hospitals so it assures a profitable operation, due to the existence of economies of scale. The Dutch healthcare system, as most systems in the EU, is highly regulated[ix] in matters as data protection[x], eprescribing and interoperability standards, thus requiring customization. The main threat for ABC in this market is whether or not there is a need to be addressed by the organisation. The Dutch health system is seen as many as a case of success, although unsustainable[xi]. There is accordance that ICT is one of the means to fight this issue, although deeper research suggests the

country is looking for far more advanced solutions than the one offered by ABC as telemedicine, for instance, which allows patients to remotely interact with physicians comes first in the priorities of the Dutch government. This practice is coherent with a steady amount of health work force. Another aspect that Dutch hospitals will likely pursue in the future is highly developed systems when it comes to business intelligence (BI). Again ABC falls behind competition as its software mainly provides insights regarding hospital management, rather than support medical decision making. When ABC was approached regarding these matters, the company justified its lack of progress due to an inexistent need in the Portuguese market.

8. Limitations

This section aims to discuss the main limitations found in the elaboration of this report.

The **complexity of the product** turns the market difficult to define. For simplification purposes, this analysis focused on the software as a global solution (i.e. all or most of all modules would be sold together) since the company perceives that is the most relevant advantage of their product. Yet, some opportunities might have been discarded, as the analysis ignored the possibility of some modules being sold alone. This, in turn, also influences the **competitive landscape**. The major players of the industry were analysed but smaller competitors (who are focused in specific modules) were ignored. However, they compose competition in the sense that a hospital who does not have a global system but rather several independent modules might not be interested in owning GlobalCare. In terms of market competition, there was **lack of transparency** regarding this type of information. Market shares were only found to the USA, as in Europe the market is highly fragmented and there is no company that is strongly spread throughout Europe. In the rest of world, the level of ICT is considerably lower, therefore even less amount of data was found. This strongly led to the final and main limitation of this thesis, which is the lack of micro-level information included in the scoring model. The level of competition in each country, through the Herfindahl Index for instance, was not found. In spite of other variables being used to overcome this limitation is of the highest importance to have a clear view of competition or at least the number of hospitals which own a global IS.

9. Conclusions and Recommendations

The previous analysis concludes that ABC is not ready to face the Dutch market, although it was the country yielding higher attractiveness. Despite its favourable conditions in doing business and the importance of healthcare and technology, the market saturation, the company's limited resources and lag behind innovation pose major barriers to a successful internationalisation.

The result posed a major question regarding the company readiness to internationalise. Throughout the development of this work it was notable that the company also faces the limitations mentioned in the previous section.

However, having more resources at its disposal, it is highly recommended that the company (i) designs a strategic long-term internationalisation plan, defining where it wishes to be in the long-run and how it will address new markets, in order to build a vision that can be shared through the organisation. It is also essential that (ii) an in-depth international market analysis is performed, by country, namely understanding the number of hospitals in each country, their dimension and what level of ICT each one of them has. ABC should (iii) include these variables in the model and attribute them a high weight. HiMSS is an organisation that provides companies with information regarding the ICT healthcare market, both from the supply and demand sides. It would be highly valuable for ABC to buy access to their database, which includes information breakdown by region, regarding usability rates, competition and evaluates hospitals regarding the level of ICT. To complete the search for new markets, the company should (iv) always keep track on new medical facilities plans or public procurements as they pose major opportunities for new markets. The company should change its reactive philosophy to proactive. This strategy requires more resources are spent on research, either by hiring more employees or accessing market reports. In terms of structure, the organisation already has a strategic planning department. However, given the diversity of business and markets of ABC, could be advantageous to incorporate more people in this department, to fully dedicate themselves to market research and international strategy design, since the product ABC owns does have a chance in the market, due to its global character.

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